Required Report - public distribution

Date: 7/6/2012

GAIN Report Number: RS1245

Russian Federation

Biofuels Annual

Biofuels Sector Update

Approved By:
Levin Flake
Prepared By:
Marina Muran

Report Highlights:
As one of the world's leading producers and exporters of oil and gas, biofuels have an insignificant share in the overall energy production matrix of Russia with an estimate of 1.2 percent, and biomass accounting for only 0.5 percent. As a result, the emerging Russian biofuels industry is driven primarily by growing demand for biofuels from Europe.

Post:
Moscow

Executive Summary:

The Russian government outlined as a national objective making the country 40 percent more energy-efficient by 2020. While there have been vague attempts at the federal level to promote the production of biofuels, there are a growing number of activities at the regional level. The number of innovative projects aimed at production of alternative energies, such as from plant cellulose (including wood or oilseeds)and agricultural wastes has increased, along with production of biofuel raw materials for export (including fuel pellets, rapeseeds, and rapeseed oil). The emerging Russian biofuels industry's export orientation is driven by the continued growing demand for biofuels in Europe and Asia. The production of biofuels is still small and has no impact on Russia's domestic grain and oilseed prices. Experts believe that without government support the biofuels sector will remain insignificant in Russia.

Due to its abundance of petroleum and natural gas, Russia produces a small amount of biofuels and has minimal domestic demand. According to experts, Russian biofuel production will not be fully developed in the next 10 years, as the sector is not considered as a national priority. Different sources estimate that renewable energies, including biofuel, represent 1.2 percent of Russia's total energy production, with biomass consisting 0.5 percent. While there are no official statistics that measure what share of total energy production biofuels account for, it is estimated that biofuels make up 5 percent of Russia's heating energy and 1 percent of its electrical power.

The Russian Ministry of Energy reports that there are no government-backed biofuel projects in operation at this time. The majority of biofuel ventures in Russia are supported by regional governments or financed by foreign investors. In most circumstances these projects are in the pilot phase and produce just enough biofuel to generate heat/electricity for their own facility, or for the production of organic fertilizer from agricultural waste. Currently, there is no industrial production of either bioethanol or biodiesel in Russia. Experts claim that more than 50 percent of all biofuel ventures initiated in Russia in the last 10 years have failed.

Policy and Programs

Russia is still in the developing stage of establishing regulatory norms for bio energy development and standards for biofuels. The government is slow in approving legislative norms for stimulating biofuel production in Russia. Experts believe that without government support and other development policy measures the sector is deemed for failure. Despite the government's effort to improve regulations relating bioenergy, no projects currently in operation have received official government support.

The Russian Government passed a resolution in January 2009 that established priorities of government policy in the sphere of renewable sources of energy up to 2020 and outlined its objective to make Russia 40 percent more energy-efficient by 2020. Targeted indicators are also set in applying renewable sources in electrical energy sector.

The next step of the government is to improve legislation on waste management that will require timber mills to send the waste to a bio-mass powered generator.

Currently there are two major legislative acts in place that stimulate the development of renewable energy sources in Russia: 1) Federal Law "On Electrical Energy Industry" that identifies types of

renewable energy resources and authorities of the government of the Russian Federation in the sphere; 2) Government Resolution on the priorities through 2020 for increasing energy efficiency from renewable sources adopted by the Russian Government on January 8, 2009. The new resolution indicates a number of measures that are aimed at improving electrical power originating from renewable sources.

Most specialists believe that the Russian government will achieve lower than its potential by 2020 for the following reasons:

- Higher construction costs of the facilities producing alternative energy in comparison with fuel-burning power plants. The equipment for facilities producing alternative energy has to be imported as domestic equipment production lags behind.
- Domestic electricity network is not adapted to support operation of the facilities for alternative energy.
- Lack of financial support from the federal government. The government is focused on developing programs for energy efficiency rather than biofuels.

The Russian Ministry of Energy reports that the volume of technically accessible renewable sources of energy in Russia is estimated at 24 Btoe. The share of electricity generated by renewable sources is currently insignificant and accounts for only 1 percent, while the share of thermal energy generated from renewable resources represents 5 percent or 3000 million Gcal. At present, Russia utilizes only 20 percent of its economically viable hydro- energetic resources.

Status of Bioethanol/Biodiesel Projects

To date there are no official statistics on bioethanol and biodiesel production, consumption and trade. Different sources estimate the share of biofuels production in overall energy production matrix of Russia is 1.2 percent.

Production of bioethanol and biodiesel in Russia can become profitable only if the Russian government abolishes the excise tax. However, the government has not moved in this direction yet due to the influence of the oil industry. Production of bioethanol and biodiesel can be produced for export only since it is exempt of the excise tax. The issue of tax is still pending and is not a priority.

Experts attribute the limited presence of bioethanol in Russia to high wheat and grain prices worldwide, which render biofuel production less profitable. Currently, biofuels are not stipulated in the National Agricultural Priority Project, and with the lack of government support, experts believe that the sector is deemed for failure. The major reasons for the government's disinterest include: the high cost of biodiesel; inadequate regulations pertaining to the sector; limited domestic demand; high availability of other energy sources and poor infrastructure (in particular machinery) that cannot be adapted easily to biodiesel use.

In 2012, the Ministry of Agriculture and Natural Resources and Ecology backed only one bioethanol venture. A new project producing ethyl-tru-propyl-carbinol ester (fuel additive which is created from grain wastes and fodder) is scheduled to begin operations in the Omsk oblast in 2013. The project, initiated by the Center of Innovation and the Group of Companies Titan, will be financed by the VneshEconomBank at 235 million Euros. The plant is projected to use 750,000 MT of grain by-

products and fodder annually, and produce 330,000 MT of fuel additive. The facility will be constructed in close proximity to a cattle production farm and grain processing plant, so that the grain by-products and fodder from these facilities could be use in the ecological additive agent. According to sources at the Ministry of Agriculture, although the ecological additive agent has a good potential in both the domestic and European markets, it may take up to 10 years before it is produced on a larger scale in Russia.

There is also vast potential for exploiting agricultural waste in Russia. However, there are only a few modern agricultural plants that can utilize agricultural waste efficiently. Experts estimate that the total volume of agricultural waste in Russia is 640 million MT, which is equivalent to 80 million toe. Most of the resources could be used for biofuel production or be exported. However, to date, no government programs exist that would entice producers to utilize these wastes.

Biomass

The government has identified the development of Russia's domestic forestry sector as a necessity, and production within this sector is expected to substantially increase by 2020.
While not a priority, the Federal Forestry Agency considers biomass production as the main alternative for Russia's developing biofuel sector. Russia has huge potential for biomass production; however, due to the high supply of high value fossil fuels, only large wood processing facilities are interested in the commercial production of biomass. Currently, biofuel production from biomass is estimated at 3 million MT in crude oil equivalent. Experts believe that it is feasible to increase this amount 10 fold, if the government identifies the sector as a priority and includes biomass in the National Energy Strategy. Experts also agree that individual regional plans aimed at increasing biofuel production should be considered.

The total annual volume of wood waste in Russia is estimated at 50-60 million MT, which is equivalent to 35-40 toe. The Federal Forestry Agency estimates the total annual growth of natural forestry in Russia at 950 million cubic meters. At present, only 186 million cubic meters are being used in biomass production, while more than 700 cubic meters are wasted, accounting for 250 million MT of wood pellet and wood chips. Today, the majority of wood waste occurs due to limited access to special equipment and modern technologies, as well as a lack of interest from the Russian government and foreign investors.

Biogas

There is only one biogas station in Russia that has been in operation since 2009 in Kaluga oblast. The project was started by BioPotok and BioGasEnergoStroy, the only certified producer of biogas in Russia. The biogas station is located next to a dairy farm and is considered as the only facility in the country that produces biogas from agricultural waste.

In 2011, BiogasEngroStroy signed agreements in 27 different regions – including Belgorod, Voronezh, Orlov, Rostov among others – stipulating the construction of an additional 50 bioenergy stations that would use agricultural waste. The planned energy capacity of these stations varies from 350 KWatt to 10 MWatt, with total capacity equaling 120 MWatt. BiogasEngroStroy will finance 50 percent of the total cost of these stations and the remaining expenses will be covered by Landesbank Berlin AG, Germany. The bank has signed the agreement with BiogasEngroStroy with intention to finance biogas

projects for total amount of 750 million Euros. The first biogas station is scheduled to be built between 2012 and 2013.

Wood Pellets

Recently, the European Union (EU) announced that the amount of renewable energy sources used in the production of electricity will increase to 15 percent by 2025, triggering substantial near-term growth in the global pellet market. Growing production will be also be driven by increasing demand in China, Japan, South Korea and North America. Experts estimate the current world market capacity for wood pellets at 15 million MT. This number is expected to reach 45 million MT by 2020.

According to trade sources, most Russian factories process wood pellets destined to Europe in conformity with DINPlus quality norms approved by the EU. Trade sources report that EU currently does not require certification for the Russian wood pellets as long as the product is manufactured in compliance with DINplus. Traders believe that an implementation of new standards to quality and technologies for production of fuel pellets in Europe would not affect Russian producers since physical and chemical indicators of raw material in Russia and Europe are identical. Therefore it will not be hard to obtain an EU certification for the Russian plants exporting wood pellets.

According to Russian Customs Statistics, Russia produced 392,000 MT of wood pellets in 2011, an 11 percent increase from 2010. Different sources estimate that actual wood pellet production is at least three to four times higher than the official data. The number of processing wood pellets facilities in Russia varies from 140 to 200, with total annual production capacity at approximately 2.3 million MT. Trade sources report that more than 50 wood pellet facilities are likely to be constructed in the near-future due to the rising capacity of medium and large wood processing plants.

The majority of these new facilities are to be located in the Northwest, Central and Volga regions of Russia. The three largest pellet producers – Vyborgskaya Cellulosa LLC, Lesozavod-25 and Setnovo LLC produce 43 percent of Russia's total wood pellet export and 75 to 80 percent of this export is destined for Europe. In 2012, the production of wood pellets is expected to rise due to EU and local demand (partially driven by Russia's growing construction sector), as well as the Russian government's call for increased efficiency in the forestry sector.

Table 1. Status and Capacity of Pellet Production Facilities in Russia, 2011

Name of the Facility and Region	Capacity, MT/per year	Status
"Dots Plus", Braynsk oblast	9,000	In operation since 2010 (investment 6.9 billion rubles)
OOO "Stod", Tver oblast	60,000	In operation since 2010
JSC"ABA", Omsk oblast	20,000	In operation since 2010
OOO "Pechora Energy Resource", Komi Republic	10,000	In operation since 2011 (total project investment 1.25 billion rubles)
JSC "Eastern Siberia Facility of Biotechnologies"	106,000	Is scheduled for 2013, (investment 1 billion rubles)

OOO "Ural Siberian Investment", Sverdlovsk oblast	27,000	Scheduled for 2013 (total investment 1.1 billion rubles)
OOO "LesProm", Kaluga oblast	33,600	By the end of 2013, investment 1.2 billion
ZAO "Novoyeniseyskiy forestry", Krasnoyarsk kray	40,000	In operation since 2010
Biogran Facility (Russian Forestry Alliance)	20,000	In operation since 2008

Source: www.wood-pellets.com

Domestic demand for wood pellets is forecasted to increase but at a modest pace. Wood pellets are in demand by private heating stations and municipal housing, primarily in heavily forested areas where traditional sources of energy are not accessible. Most wood pellets in Russia can be found in pet shops, where they are sold as bedding for pets. Experts estimate production of wood pellets are in most cases cheaper than gas, however, due to lack of domestic standards for pellets, poor transport infrastructure, warehouses, and the product seasonality will negatively impact the wood pellet market development in Russia.

Exports

Exports of products under HTS 440130, which includes sawdust, wood waste and scraps, briquettes, pellets or similar forms (there is no individual HTS category for wood pellets), totaled at 1 million MT in 2011. This represented a 25 percent increase from 2010. The leading export destination for these products was Finland at 320,000 MT, followed by Denmark at 227,600 MT, and Sweden at 165,000 MT. Europe will continue to be the largest importer of Russian wood pellets. The current annual estimate of the European wood pellet market is 9 million MT.

Experts report that the near-term demand for wood pellets is likely to increase by 8-10 percent. EU experts estimate that Russia's share of the EU's total 2010 import market was 20 percent. Russia has large export potential and European pellet demand will likely stimulate an increase in Russian production. However, Russia will require large investments in order to upgrade its facilities and expand its production capacity. Domestic demand can also absorb some of the increased near-term production.

Table 1. PS& D for Fuel Pellets

PS & D for Fuel Pellets						
1,000 Metric Tons						
CY	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Production	731	967	1,320	1,590	1,900	2,250
Imports	0	0	0	0	0	0
Exports	511	707	990	1,220	1,470	1,680
Consumption	220	260	330	370	430	480

Rapeseed Production

Russia's production of its three main oilseeds (sunflowerseeds, soybeans and rapeseeds) is forecasted at 11.2 MMT for 2012, a10 percent decrease from the bumper crop of 2011, but still the second largest oilseeds crop in Russian history. Rapeseed production is forecasted at 0.9 MMT. This represents a 14 percent drop in production when compared to last year, as the high-yielding winter rapeseed crop in south-western Russia (especially in Stavropol kray-the major producer of winter rapeseed) was damaged by winter frosts. This is expected to significantly reduce yields. Meanwhile, areas sown with spring rapeseeds are expected to decrease production in MY 2012/13 because many farmers consider rapeseed a difficult crop for harvesting and transporting. Rapeseed is primarily produced as a result of demand from Europe for biofuels.

Rapeseed consumption will be driven by the EU demand for its use in biofuels. Russia's rapeseed crush in MY 2012/13 is forecasted at 0.8 MMT, only slightly below MY 2011/12.

After Russia joins the WTO, export duties on oilseeds will be eliminated (soybean) or reduced (sunflowerseed, rapeseed), although this will happen in stages over 3-4 years. As a result, although in the long-term, Russian WTO accession could have significant impact on this sector and related trade, the short-term consequences are not yet clear. In MY 2012/13 increased rapeseed production will be driven by growing EU demand and improved production infrastructure

Please refer to GAIN RS1222 Annual Oilseeds and Products for more details.

Notes on Statistical Data

Bioethanol and biodiesel production in Russia is very small. There are no official data for these products in Russia. Production and trade data for wood pellets is based on GTA, Official Russian Federal Customs Service, and estimates of the FAS posts in EU. The trade data for wood pellets may not correspond to the EU data since there is no HS Code for wood pellets alone in Russia. Currently it is subsumed under HS 440130. FAS Post based its estimates on figures of National Biofuels Association, sources from research, analytical institutions as well as agricultural trade sources.